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PATENT APPLICATION

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11.19.03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q59989

Katsuya NAGASHIMA

Appln. No.: 09/609,532

Group Art Unit: 2817

Confirmation No.: Unknown

Examiner: Unknown

Filed: June 30, 2000

For: DEMODULATOR AND DEMODULATING METHOD FOR MOBILE PHONE

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§ 1.97 and 1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

1. JP-A 8-32640 (previously submitted to PTO with an IDS on 2/20/03).
2. JP-A 7-221676 published August 18, 1995.
3. JP-A 8-316883 published November 29, 1996.
4. JP-A 63-272171 published November 9, 1988.
5. JP-A 6-205062 (previously submitted to PTO with an IDS on 2/20/03).
6. JP-A 6-268704 published September 22, 1994.

One copy of each of the listed documents (except References 1 and 5 above) is submitted herewith.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date for an application other than a continued prosecution

application (CPA) under §1.53(d); (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant encloses herewith a copy of a Japanese Office Action dated June 3, 2003 with an English translation of the pertinent portions thereof which cites such documents and indicates the degree of relevance found by the foreign patent office.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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Registration No. 25,665

Date: September 2, 2003

Claims: 1, 4 through 8, 11, and 14 through 18
Cited literature: 1
Remarks:
Cited literature 1, referring to Figure 2, describes a demodulation device having two or more means of improving the reception error rate by outputting post-detection corrected values by weighting and returning the error of preceding and following symbols, and a means which weights post-detection corrected values. It is found that no particular difference can be discovered between Cited literature 1 and the inventions as per Claims 1, 4 through 8, 11 and 14 through 18 of the present application as amended.

Claims: 2 and 12
Cited literature: 1 and 2
Remarks:
The relationship of the means for improving the reception error rate by weighting and returning the error of preceding and following symbols and the means of adapting to various radio wave environments and noise types cannot be understood from the language of the claim. Thus, taking the two means to exist independently, since using equalizers and the like as means of adapting to various radio wave environments and noise types is a commonly used configuration, as described for instance in Cited literature 2, page 2, left column, line 48 through right column, line 15, it is found that the configuration described in Claims 2 and 12 is in no way different from a combination, in a demodulator, of the configurations described, for instance, in Cited literature 1 and Cited literature 2.

Claims: 3 and 13
Cited literature: 1 and 2
Remarks:
The inventions as per Claims 3 and 13 contain unclear points, as notified under reason 1 above, but to examine these claims excluding those points, it is found that, if one generally considers controlling the optimal weighting in an equalizer in accordance with the condition of the transmission channel, no particular difficulty can be found in adopting the configuration whereby weighting control is performed in accordance with the radio wave environment and noise of the transmission channel in Cited literature 1 (see for example Cited literature 2, page 2, left column, line 48 through right column, line 15).

(In the opinion brief, it is stated that Claims 3 and 13 are based on paragraph [0017], but considering the point examined under reason 1 above, the weighting control involved in Claims 3 and 13 is found be control based on the language of paragraph [0026], it being impossible to read from the language of the claim that this is weighting of corrected values after multiple type loop detection as described in paragraph [0017], thus leading to the judgment described above.)

Claims: 9 and 19
Cited literature: 1 through 3
Remarks:
Weighting to avoid divergence of computation results is described in Cited literature 3, page 4, left column, line 49 through right column, line 41 and page 7, right column, line 14 through line 19, and it is found that this could be suitably adapted as necessary to the weighting of Cited literature 1 by a person skilled in the art.

Claims: 10 and 20
Cited literature: 1 through 4
Remarks:
A constitution whereby computation is performed with bit expansion and the lower bit of

the computation results is omitted to restore the bit number and control rounding error is described in Cited literature 4, page 5, bottom left column, line 18 through bottom right column, line 5, and it is found that this could be suitably adapted as necessary to the computation of Cited literature 1 by a person skilled in the art.

(It should be borne in mind that it has been found that no reasons for rejection have been discovered at this time for the structure with regard to which it is clear that, in addition to the content described in Claims 1 and 9 before amendment,
· there is a plurality of feedback loops of multiple type post-detection correction
· corrected values following multiple type loop detection are weighted by controlling the priority based on the radio wave environment and noise type
· the weighted corrected value flowing multiple type loop detection is added to the value of the error of the preceding and following symbols.

It is found that no difference from the general art of controlling multiple post-detection correction loops based on priority can be discovered if it is stated merely that weighted corrected values of multiple type loops are adapted to various radio wave environments and noise types by controlling the priority.)

Table of cited literature

1. Japanese Unexamined Patent Application Publication H8-32640
2. Japanese Unexamined Patent Application Publication H7-221676
3. Japanese Unexamined Patent Application Publication H8-316883
4. Japanese Unexamined Patent Application Publication S63-272171

Record of prior art literature search results

· Fields searched — IPC 7th Edition
H04L27/00-27/38

· Prior art literature
Japanese Unexamined Patent Application Publication H6-205062
Japanese Unexamined Patent Application Publication H6-268704

This record of prior art literature search results does not constitute a reason for rejection.